glass cloth, and hence a technique for improving this weakness has been reported in recent years (e.g., refer to Patent Literature 1 to 3).

Citation List

Patent Literature

[0003]

Patent Literature 1: JP H11-129399 A

Patent Literature 2: WO 2001/097582 A

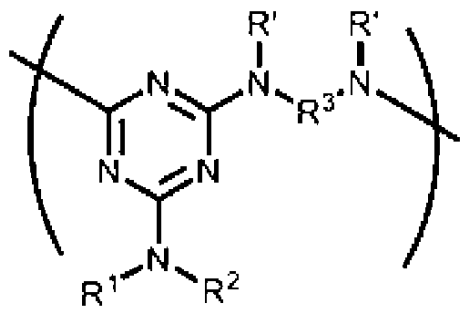
Patent Literature 3: WO 2005/025857 A

Summary

[0003a]

In an aspect of the present disclosure, there is provided a composition comprising a polymer comprising a repeating unit represented by Formula (1) set forth below:

[Chemical Formula 1]



(1)

In Formula (1), $-N(R')-R^3-N(R')-$ is a structure derived from a dimer diamine that is unsubstituted or substituted by

a substituent, R', R^1, and R^2 each are independently a hydrogen atom, a halogen atom, a hydrocarbon group that is unsubstituted or substituted by a substituent and has 1 to 20 carbon atoms, a heterocyclic aliphatic group that is unsubstituted or substituted by a substituent and has 3 to 20 carbon atoms, or a heterocyclic aromatic group that is unsubstituted or substituted by a substituent and has 3 to 20 carbon atoms, and $-NR^1R^2$ may be a nitrogen-containing heterocyclic group which has 5 to 20 ring-constituting atoms and in which R^1 and R^2 are bonded to each other.

[0003b]

In another aspect of the present disclosure, there is provided a cured product obtained by curing the composition as disclosed herein.

[0003c]

In a further aspect of the present disclosure, there is provided a laminated body comprising a substrate and a cured product layer formed by using the composition as disclosed herein.

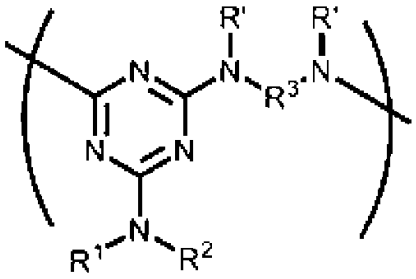
[0003d]

In another aspect of the present disclosure, there is provided an electronic component comprising the laminated body as disclosed herein.

[0003e]

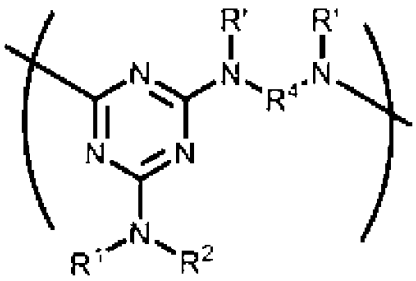
In a further aspect of the present disclosure, there is provided a polymer comprising a repeating unit represented by Formula (1) set forth below and a repeating unit represented by Formula (2) set forth below:

[Chemical Formula 3]



(1)

[Chemical Formula 4]



(2)

In Formulae (1) and (2), $-N(R')-R^3-N(R')-$ is a structure derived from a dimer diamine that is unsubstituted or substituted by a substituent, R', R^1, and R^2 each are independently a hydrogen atom, a halogen atom, a hydrocarbon group that is unsubstituted or substituted by a substituent and has 1 to 20 carbon atoms, a heterocyclic aliphatic group that is unsubstituted or substituted by a substituent and has 3 to 20 carbon atoms, or a heterocyclic aromatic group that is unsubstituted or substituted by a substituent and has 3 to 20 carbon atoms, R^4 is a divalent aromatic hydrocarbon group

having 6 to 30 carbon atoms, a divalent alicyclic hydrocarbon group having 5 to 20 carbon atoms, a divalent chain hydrocarbon group having 1 to 20 carbon atoms, a divalent group represented by $-(R^{41}-O)_m-$, a divalent silicon-containing group, a group in which two or more groups selected from these groups are combined, a group in which at least a part of these groups is substituted with at least one selected from an oxygen atom, a nitrogen atom and a sulfur atom, or a group in which a part of these groups is substituted with a substituent, R^{41} is independently an alkylene having 2 to 4 carbon atoms, m is an integer in the range from 1 to 70, $-NR^1R^2$ may be a nitrogen-containing heterocyclic group which has 5 to 20 ring-constituting atoms and in which R^1 and R^2 are bonded to each other, $-N(R')-R^4-$ may be a divalent monocyclic nitrogen-containing heterocyclic group which has 5 to 20 ring-constituting atoms and in which R' and R^4 are bonded to each other, and $-N(R')-R^4-N(R')-$ may be a divalent monocyclic nitrogen-containing heterocyclic group which has 5 to 20 ring-constituting atoms and in which two R' are bonded to each other.

[0003f]

In another aspect of the present disclosure, there is provided a molded body obtained by molding the polymer as disclosed herein.

[0003g]

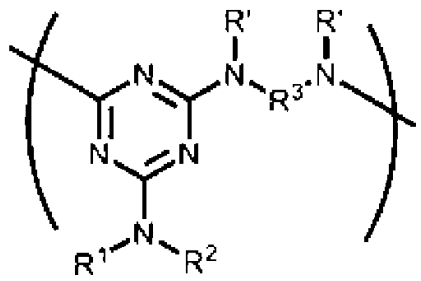
In a further aspect of the present disclosure, there is provided a laminated body comprising a substrate and a layer formed by using the polymer as disclosed herein.

[0003h]

In another aspect of the present disclosure, there is provided a polymer comprising a repeating unit represented by Formula (1) set forth below, or a polymer that comprises a repeating unit represented by Formula (1) set forth below and a repeating unit represented by Formula (2) set forth below, and

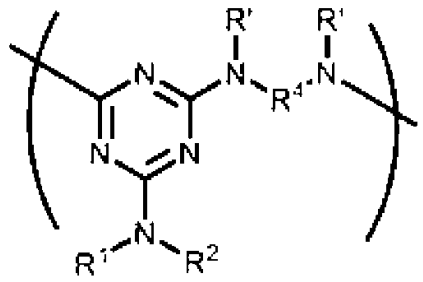
comprises, at a terminal, at least one group selected from a phenolic hydroxyl group, an allyl group, a vinyl group, a (meth)acryloyl group, a maleimide group, a propargyl group, an ethynyl group, an aromatic hydrocarbon group, an aliphatic hydrocarbon group, or a heterocyclic group:

[Chemical Formula 5]



(1)

[Chemical Formula 6]



(2)

In Formulae (1) and (2), $-N(R')-R^3-N(R')-$ is a structure derived from a dimer diamine that is unsubstituted or substituted by a substituent, R', R^1, and R^2 each are independently a hydrogen atom, a halogen atom, a hydrocarbon group that is unsubstituted or substituted by a substituent and has 1 to 20 carbon atoms, a heterocyclic aliphatic group that is unsubstituted or substituted by a substituent and has 3 to 20 carbon atoms, or a heterocyclic aromatic group that is unsubstituted or substituted by a substituent and has 3 to 20 carbon atoms, R^4 is a divalent aromatic hydrocarbon group having 6 to 30 carbon atoms, a divalent alicyclic hydrocarbon group having 5 to 20 carbon atoms, a divalent chain hydrocarbon group having 1 to 20 carbon atoms, a divalent group represented by $-(R^{41}-O)_m-$, a divalent silicon-containing group, a group in which two or more groups selected from these groups are combined, a group in which at least a part of these groups is substituted with at least one selected from an oxygen atom, a nitrogen atom and a sulfur atom, or a group in which a part of these groups is substituted with a substituent, R^{41} is independently an alkylene having 2 to 4

carbon atoms, m is an integer in the range from 1 to 70, -NR^1R^2 may be a nitrogen-containing heterocyclic group which has 5 to 20 ring-constituting atoms and in which R^1 and R^2 are bonded to each other, -N(R')-R^4- may be a divalent monocyclic nitrogen-containing heterocyclic group which has 5 to 20 ring-constituting atoms and in which R' and R^4 are bonded to each other, and -N(R')-R^4-N(R')- may be a divalent monocyclic nitrogen-containing heterocyclic group which has 5 to 20 ring-constituting atoms and in which two R' are bonded to each other.

[0004]

The addition of a curing agent such as an epoxy compound, a cyanate compound, or an acrylic compound, and/or an inorganic filler such as silica or alumina has been attempted for improving the mechanical strength, heat resistance, flame retardancy, and thermal conductivity, but the effect of the improvement has not been sufficient even by the addition of these.

Moreover, in the step of producing multilayer printed wiring boards, there may be a case where electronic component materials are required to be bonded together by using (a composition containing) a polymer, and in this case, it is

also required that a polymer or a composition containing a polymer can be uniformly applied to a substrate (excellent in applicability), and that a layer obtained from the polymer or from the composition containing a polymer is required to have a high adhesion to a substrate.

[0005]

However, conventional polymers such as the polymers described in the patent literature had insufficient solubility in a general-purpose solvent, these polymers or compositions containing these polymers were not able to be uniformly applied to a substrate (poor in applicability), and/or layers obtained from these polymers or from the compositions containing these polymers had insufficient adhesion to a substrate (hereinafter, it is also simply referred to as “adhesion to a substrate”.)

[0006]

One example of the present disclosure provides a polymer which is excellent in heat resistance, is soluble in a general-purpose solvent, and also is excellent in applicability and adhesion to a substrate, and also provides a composition which is capable of forming a cured product (cured product layer) that is excellent in heat resistance and excellent in applicability and adhesion to a substrate.